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What Matters Most For A Longer Life

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Why daily movement may matter more than age or genetics

The world is a complicated place, and many factors contribute to longevity. Doctors and researchers have long recognized that variables such as age, sex, weight, physical activity, and blood pressure are at play. Also, it is tricky to make a claim about the relative importance of one of these factors over the others.

Nonetheless, a recent paper by Andrew Leroux and his colleagues does just that. The paper claims that physical activity is the strongest predictor of mortality. Let’s look at this important paper and see how the evidence for physical activity stacks up.

The study looked at data for 3,653 adults aged 50–80 years. All of these individuals were enrolled (from 2011–2014) in the national

NHANES health survey. NHANES is an ongoing longitudinal health study from the Centers for Disease Control and Prevention (CDC). Participants in the study are asked questions about lifestyle, demographics, and medical history and wear activity trackers on their wrists.



In this study, the authors focused on a representative sample of these participants and what mattered most for them in terms of all-cause mortality. Specifically, the researchers tested whether a wearable activity tracker

(a research-grade Fitbit) could predict mortality better than 14 traditional medical markers. Since the traditional markers are a good review of what matters for mortality, we should look more closely at them.

Category	Predictor	Description
Demographics	Age	Participant's age at the time of the household interview.
	Gender	Male or Female.
	Race / Ethnicity	Non-Hispanic White, Black, or Asian; Mexican American; Other Hispanic; or Other.
Socioeconomic Status	Education Level	Less than high school, high school equivalent, or more than high school.
Lifestyle Factors	Smoking Status	Never, former, or current smoker.
	Alcohol Use	Moderate, heavy, former, never, or missing data.
Current Health Status	Overall Health	Self-reported as poor, fair, good, very good, or excellent.
	BMI	Categorized as underweight, normal, overweight, or obese.
	Mobility Problem	Difficulty walking a quarter mile, up 10 steps, or walking without special equipment.
Medical History	Diabetes	Self-reported history of diabetes, excluding prediabetes.
	Heart Attack	Self-reported history of a heart attack.
	Stroke	Self-reported history of a stroke.
	Heart Disease	Self-reported coronary heart disease (CHD) or congestive heart failure (CHF).
	Cancer	Self-reported history of any type of cancer.

You'll agree that all of these traditional markers seem reasonable. It makes perfect sense, for example, that an elderly male alcoholic with a history of stroke and heart attacks might not live as long as a young female athlete with no medical history at all. Indeed, these kinds of traditional mortality markers frequently come up in the medical literature dealing with longevity.

So, how did the Fitbits fare against these traditional markers? The answer ... remarkably well. The researchers found that the most accurate predictor of longevity was the amount of activity recorded during the 10 most active hours of the day. This factor beat out everything else, even age (which is obviously highly correlated with mortality risk), and when physical activity measured this way was added into predictive models for mortality, there was a huge net benefit to the model.

It's important to realize that this isn't just about steps. The researchers got a bit more granular than that. They looked at movement as a function of total volume (how much you move throughout the day) AND relative amplitude (a measurement of your most active hours to your least active hours—sleeping). People who moved more during the day and less when they were supposed to be sleeping would get a higher score.

Some inferences ...

First, work with your Quotient Health Care Team to gain insights into what's going on through advanced sleep testing and biomarkers. For our Elite members, the Oura Ring and Heads-Up Health app provide an additional layer of continuous, real-time data to further personalize these insights. The nice thing about the health information gathered this way (backed up by the Andrew Leroux study) is that it is objective. It's difficult to estimate physical activity when just asked about it in the doctor's office—you could forget, you could feel pressure to exaggerate how much you are doing to please the doctor, or you

could have just started an exercise routine and be couching your answer in terms of that recent change instead of what you actually did long-term, etc. This study's design provides a workaround to this, so we know that the conclusions of the study are based on what people did (not just what they thought they did).

Second, the study suggests that modifiable factors like activity and mobility are important—not just immutable variables such as age. This study demonstrated that physical activity was more important than age in modifying mortality risk. This alone is a great reason to keep working with your Quotient Health physicians and trainers in order to maximize movement. You will live longer!

Finally, the study emphasized something we have covered before in these pages—the importance of sleep. (Just last month we discussed sleep apnea.) Many of our patients have stressful, demanding lives, and it is very easy to let proper sleep go by the wayside. This study shows us that it wasn't just physical activity during the day but also, critically, restful sleep at night that made the biggest difference for all-cause mortality. So, fluff that pillow, set your bedroom to a cool 65°F, and stay away from coffee and booze in the evenings.

You probably heard about the benefits of physical activity and sleep in middle school. There really is something about the combination of physical activity and restful sleep as contributing factors for a long and healthy life. Optimize physical activity and restful sleep, and you just might be able to add years to your life and life to your years. Our Quotient Health methodologies make it all so much easier. Maybe age really is just a number!

Many effective treatments for Obstructive Sleep Apnea (OSA) are available, including treatments for members who can't tolerate CPAP.

With treatment, sleep will improve and the body can get the properly oxygenated, restorative sleep it needs.

As you now know, great sleep is a key factor for good health and longevity and is eminently attainable. Evaluation and treatment of OSA is a standard part of the care that the Quotient

Health Care Team provides. We're here to help you sleep and feel more energized so you can live better!

Thanks for the opportunity to be involved in your care.



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This month's Core5 focus: Strength/Lean Mass

Our Core5 Profile

Optimal health is visualized as a pentagon built from the Core5: sleep architecture, strength & lean mass, cardiopulmonary fitness, cardiovascular health, and metabolic rate. When all five are strong, the pentagon is complete. When one falls short, the shape reveals where your health needs attention.

